UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
MIRZA, ADNAN M

ART UNIT	PAPER NUMBER
2145	

DATE MAILED: 04/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 January 2006*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-76 and 78* is/are pending in the application.
　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-76 and 78* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
　　a)☐ All b)☐ Some * c)☐ None of:
　　　1.☐ Certified copies of the priority documents have been received.
　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.
　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/9/, 5/4, 6/14, 10/2*.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

1.   Claims 1-76,78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowman-

Amuah (U.S. 6,289,382) and further in view of Berg et al (U.S. 5,99,911).

As per claims Bowman-Amuah disclosed 1,19,37,55 in a distributed computing environment, a

computer-implemented method for dynamically implementing workflow responsive to a

directory object state change, the method comprising:: automatically mapping the state change to

the object to a workflow comprising a set of tasks; and executing the tasks to achieve a desired

state in the directory (col. 117, lines 24-37).

However Bowman-Amuah did not disclose in detail automatically detecting a state change to an

object in a directory; and responsive to detecting the state change.

In the same field of endeavor Berg disclosed, the flow management engine for maintaining and

updating the state of a workflow any change in the state of the workflow to other workflow

manager systems operating on the same workflow. By updating the state of the workflow

instance in this manner all users working on the same instance of a workflow share the same

view of the workflow (col. 7, lines 56-63).

It would have been obvious to one having ordinary skill in the art at the time of the invention

was made to have incorporated the flow management engine for maintaining and updating the

state of a workflow any change in the state of the workflow to other workflow manager systems

operating on the same workflow. By updating the state of the workflow instance in this manner

all users working on the same instance of a workflow share the same view of the workflow as

taught by Berg in the method of Bowman-Amuah to reduce the amount of deficiencies in the

processes of performing and managing complex processes.

3.   As per claims 2,20,38,56 Bowman-Amuah-Berg disclosed wherein executing the tasks

further comprises storing the desired state (Bowman, col. 101, lines 15-20).

4.   As per claims 3,21,39,57 Bowman-Amuah-Berg disclosed wherein executing the tasks

further comprises continuously executing ar operation of a task of the tasks until convergence of

the desired state is identified (Bowman, col. 116, lines 47-63).

5.   As per claims 4,22,40,58 Bowman-Amuah-Berg disclosed wherein executing the tasks

further comprises storing a sequence of operations based on the tasks (Bowman, col. 117, lines

13-21).

6.   As per claims 5,23,41,59 Bowman-Amuah-Berg disclosed wherein executing the tasks

further comprises storing information corresponding to one or more directory objects to which

the workflow applies (Bowman, col. 117, lines 13-12).

7.   As per claims 6,24,42,60 Bowman-Amuah-Berg disclosed wherein executing the tasks

further comprises storing status information based on respective status of at least one subset of

the tasks (Bowman, col. 101, lines 26-38).

8.   As per claims 7,25,43,61 Bowman-Amuah-Berg disclosed wherein mapping the state

change to the object further comprises evaluating the state change to the object based on a

declarative condition stored as a text string on an object instance of a content class defined by the

directory schema (Bowman, col. 117, lines 40-47).

9.   As per claims 8,26,44,62 Bowman-Amuah-Berg disclosed wherein a task of the tasks

comprises any combination of a declarative condition or an operation that is stored as a text

string on an object instance of a content class defined by the directory schema (Bowman, col.

115, lines 27-36).

10.   As per claims 9,27,45,63 Bowman-Amuah-Berg disclosed wherein semantics of the

workflow are based on a workflow schema (Bowman, col. 117, lines 24-39).

11.   As per claims 10,28,46,64 Bowman-Amuah-Berg disclosed wherein mapping the state

change to is the object, semantics of the mapping are based on an event association object

schema (Bowman, col. 117, lines 4-10).

12.   As per claims 11,29,47,65 Bowman-Amuah-Berg disclosed wherein executing the tasks

at least one subset of the tasks are executed with respect to one another based on an order of

execution relationship comprising a finish-start relationship, a parallel execution relationship, a

precedence constraint relationship, or a task priority relationship (Bowman, col. 118, lines 26-

42).

13.   As per claims 12,30,48,66 Bowman-Amuah-Berg disclosed wherein executing the tasks

at least one subset of the tasks is executed with respect to one another based on a precedence

constraint relationship or a task priority relationship (Bowman, col. 118, lines 2-10).

14.   As per claims 13,31,49,67 Bowman-Amuah-Berg disclosed wherein the method further

comprises: monitoring a status corresponding to a task of the tasks; storing the status on a status

monitoring object; and wherein a content class in the directory schema defines the status

monitoring object (Bowman, col. 115, lines 48-54).

15.   As per claims 14,32,50,68 Bowman-Amuah-Berg disclosed wherein the method further

comprises: monitoring a set of directory resources affected by the workflow; storing the

directory resources on a status monitoring object; and wherein a content class in the directory

schema defines the status monitoring object (Bowman, col. 101, lines 26-38).

16.   As per claims 15,33,51,69 Bowman-Amuah-Berg disclosed wherein the method further

comprises: monitoring a status corresponding to an operation of the workflow; determining that

the status comprises a failure status; responsive to the determining, taking a corrective action to

advance the workflow in view of the failure status; and wherein a content class in the directory

schema defines the status monitoring object (Bowman, col. 117, lines 24-38).

17.   As per claims 16,34,52,70 Bowman-Amuah-Berg disclosed wherein executing the

tasks further comprises: updating a status corresponding to a task in the workflow; and

responsive to the updating, evaluating the workflow to determine that a next task of the tasks to

be implemented (Bowman, col. 115, lines 39-48).

18.   As per claims 17,35,53,71 Bowman-Amuah-Berg disclosed wherein the tasks represent

an inverse set of tasks that were previously performed as part of a different workflow (Bowman,

col. 116, lines 38-47).

19.   As per claims 18,36,54,72 Bowman-Amuah-Berg disclosed wherein the tasks

implement a policy with respect to one or more directory resources, and wherein mapping the

state change to the object further comprises automatically determining the workflow based on

the policy (Bowman, col. 117, lines 1-12).

20.   As per claim 73 Bowman-Amuah-Berg disclosed a computer-readable medium

comprising a workflow enabled directory schema for automated work flow implementation by a

set of computer-program instructions executable by a processor, the workflow enable directory

schema comprising a plurality of base object content classes, comprising: a provisioning service

content class to detect an event corresponding to a state change in a directory object (Berg, col.

7, lines 56-63); a workflow content class for storing a sequence of tasks; an event association

content class for storing declarative conditions to map the state change to the directory object to

an object instance of the workflow content class (col. 117, lines 1-13); and wherein the

provisioning service content class is further configured to execute the sequence of tasks

corresponding to the object instance (col. 116, lines 38-44).

21.   As per claim 74 Bowman-Amuah-Berg disclosed wherein at least a subset of the base

object content classes comprise a respective flexible attribute data field that indicates a data type,

the data type being used to express various operational or data providing properties of the

flexible attribute, the various operational or data providing properties being independent of the

data type and independent of any modification to the workflow enabled directory schema (col.

115, lines 55-65).

22.   As per claim 75 Bowman-Amuah-Berg disclosed wherein the sequence of tasks

comprises any combination of a declarative conditions and operations corresponding to

directory-based objects (col. 116, lines 53-63).

23.   As per claim 76 Bowman-Amuah-Berg disclosed further comprising a status

monitoring content class for storing a status of an object instance of the workflow content class

(col.115, lines 27-36).

24.   As per claims 78 Bowman-Amuah-Berg disclosed a computer-readable medium

comprising a workflow enabled directory schema as recited (col. 117, lines 1-12).

Response to Arguments

25.   Applicant argued that prior art did not disclose, "continuously executing an operation of a

task of the tasks until convergence of the desired state is identified".

As to applicant's argument Bowman-Amuah-Berg disclosed, "when an application completes

processing a task, it uses these services to route work in progress to the next required task or

tasks and, in some cases, notify interested parties of the resulting work queue changes (col. 116,

lines 47-52)".

26.   Applicant argued that prior art did not disclose, "An event association object schema;

monitoring a set of directory resources affected by the work flow; storing the directory resources

on a status monitoring object; wherein a content class in the directory schema defines the status-

monitoring object".

As to applicant's argument Bowman-Amuah-Berg disclosed, "Many management skills such as

planning, monitoring status working with end-customer expectations, and managing risk

certainly apply to any domain. These blocking and tackling aspects of management aspects must

not be forgotten on a component based development project (col. 147, lines 13-18).

Conclusion

27.   Any inquiry concerning this communication or earlier communication from the examiner

should be directed to Adnan Mirza whose telephone number is (571)-272-3885.

28.   The examiner can normally be reached on Monday to Friday during normal business

hours. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Jason Cardone can be reached on (571)-272-3933. The fax for this group is (703)-

746-7239. The fax phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

29.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for un published

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at (866)-217-9197 (toll-free).

Adnan Mirza

Examiner

JASON CARDONE
SUPERVISORY PATENT EXAMINER